

**What is claimed is:**

- 1        1.    A pressure chamber of a piezoelectric ink jet  
2    print head, comprising:  
3        a substrate;  
4        a concave chamber formed on the substrate, having an  
5            opening of a relatively large sectional area and  
6            a bottom of a relatively small sectional area;  
7        a vibrating plate formed above the concave chamber; and  
8        a piezoelectric unit on the vibrating plate.
- 1        2.    The pressure chamber as claimed in claim 1,  
2    wherein the substrate is a silicon substrate.
- 1        3.    The pressure chamber as claimed in claim 2,  
2    wherein the substrate is a silicon wafer with a crystal  
3    structure of [100] or [110].
- 1        4.    The pressure chamber as claimed in claim 2,  
2    wherein the concave chamber is formed by wet etching.
- 1        5.    The pressure chamber as claimed in claim 1,  
2    wherein the cross-section of the concave chamber is  
3    rectangular.
- 1        6.    The pressure chamber as claimed in claim 1,  
2    wherein the vibrating plate is a silicon wafer, a metal  
3    plate or a ceramic plate.
- 1        7.    The pressure chamber as claimed in claim 1,  
2    wherein the vibrating plate is formed above the concave  
3    chamber by wafer-bonding.

1        8.    The pressure chamber as claimed in claim 1,  
2    wherein the piezoelectric unit comprises lead zirconate  
3    titanate (PZT).

1        9.    A fabrication method for a pressure chamber of a  
2    piezoelectric ink jet print head, comprising steps of:

3        providing a substrate;

4        forming a concave chamber on the substrate to serve as  
5                the pressure chamber, wherein the concave chamber  
6                has an opening of a relatively large sectional  
7                area and a bottom of a relatively small sectional  
8                area;

9        forming a vibrating plate above the concave chamber;

10       and

11       forming a piezoelectric unit on the vibrating plate.

1        10.   The fabrication method for a pressure chamber as  
2    claimed in claim 9, wherein the substrate is a silicon  
3    substrate.

1        11.   The fabrication method for a pressure chamber as  
2    claimed in claim 10, wherein the substrate is a silicon  
3    wafer with a crystal structure of [100] or [110].

1        12.   The fabrication method for a pressure chamber as  
2    claimed in claim 10, wherein the concave chamber is formed  
3    by wet etching.

1        13.   The fabrication method for a pressure chamber as  
2    claimed in claim 9, wherein the cross-section of the concave  
3    chamber is rectangular.

1        14. The fabrication method for a pressure chamber as  
2        claimed in claim 9, wherein the vibrating plate is a silicon  
3        wafer, a metal plate or a ceramic plate.

1        15. The fabrication method for a pressure chamber as  
2        claimed in claim 9, wherein the vibrating plate is formed  
3        above the concave chamber by wafer-bonding.

1        16. The fabrication method for a pressure chamber as  
2        claimed in claim 9, wherein the piezoelectric unit comprises  
3        lead zirconate titanate (PZT).